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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,185	11/25/2003	Andrea Sapienza	P14643-US1	7931

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EXAMINER	
ELCENKO, ERIC J	
ART UNIT	**PAPER NUMBER**
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/722,185	SAPIENZA ET AL.	
	Examiner	Art Unit	
	Eric Elcenko	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/25/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted was filed and is being considered by the examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1,5,6,8,13 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Hsu et al. (U.S. Pub. No. 2005/0094601)

In regard to Claims 1,5,6,13, 17 and 19 applicant's prior art discloses, FIG. 1 illustrates the PPP state machine 10. From a "Dead" state 11, call setup begins when a link is configured in an "Establish" state 12. Authentication is then performed in an "Authenticate" state 13. If authentication is successful, the PPP state machine moves to a "Network" state 14. When the connection is permanently disconnected, the state machine moves to a "Terminate" state 15, and then returns to the Dead state. The connection enters the "Semi-Connected" state 16 when the call is temporarily disconnected after a successful PPP negotiation (i.e., PPP in Network State). The connection will remain in the Semi-

Connected state for a predefined wait-time as configured in the access server. If a new call from the same GSM subscriber is received when in the Semi-Connected state, the CNID is used for authenticating the call (i.e., the CNID is checked to determine that the call comes from the same mobile subscriber as the initial call). The connection then returns to the Network state. If no new call is received during the wait-time when in the Semi- Connected state, a timeout occurs, and the state machine returns to the Dead state. FIG. 2 is a simplified block diagram of a network PPP connection illustrating a problem that occurs in the prior art when attempting to use SCM with a roaming mobile subscriber. A first call and PPP connection are set up from a mobile station 21 through a first Mobile Switching Center (MSC1) 22, and a first Access Server (AS1) 23 to an Internet Protocol (IP) network 24. The call is then temporarily disconnected, moving the connection to the Semi-Connected state.

Applicant's prior art fails to disclose a second access server, which utilizes the first server information to establish a connection through the IP-based network and sending packets on the connection and reconnecting the mobile subscriber to the IP-based network.

Hsu et al. discloses a mobile node can change its location and may communicate with other Internet nodes at any location. The home agent tunnels the datagrams to the mobile node or a foreign agent. A foreign agent 204 is a router on a mobile node's visited network, which provides routing services to the mobile node 210 while registered. The foreign agent 204 detunnels and delivers datagrams to the mobile node 210 that were tunneled by the mobile node's home

agent 202. For datagrams sent by a mobile node 210, the foreign agent 204 may serve as a default router for registered mobile nodes. (Para 23-26)

It would have been obvious to one of ordinary skill in the art to modify the applicant's prior art to include the teachings of Hsu in order to allow a mobile node to provide the user a smoother and more efficient way or retaining access during roaming times of the mobile subscriber.

In regard to Claim 8, applicant's prior art discloses, FIG. 1 illustrates the PPP state machine 10. From a "Dead" state 11, call setup begins when a link is configured in an "Establish" state 12. Authentication is then performed in an "Authenticate" state 13. If authentication is successful, the PPP state machine moves to a "Network" state 14. When the connection is permanently disconnected, the state machine moves to a "Terminate" state 15, and then returns to the Dead state. The connection enters the "Semi-Connected" state 16 when the call is temporarily disconnected after a successful PPP negotiation (i.e., PPP in Network State). The connection will remain in the Semi-Connected state for a predefined wait-time as configured in the access server. If a new call from the same GSM subscriber is received when in the Semi-Connected state, the CNID is used for authenticating the call (i.e., the CNID is checked to determine that the call comes from the same mobile subscriber as the initial call). The connection then returns to the Network state. If no new call is received during the wait-time when in the Semi- Connected state, a timeout occurs, and the state machine returns to the Dead state. FIG. 2 is a simplified block diagram of a network PPP connection illustrating a problem that occurs in the prior art when

attempting to use SCM with a roaming mobile subscriber. A first call and PPP connection are set up from a mobile station 21 through a first Mobile Switching Center (MSC1) 22, and a first Access Server (AS1) 23 to an Internet Protocol (IP) network 24. The call is then temporarily disconnected, moving the connection to the Semi-Connected state. Meanwhile, if the mobile station roams to a new location and attempts to re-establish the call, the second call may be directed to a second MSC (MSC2) 25 and a second Access Server (AS2) 26. In this case, AS2 will not find a cache entry that matches the mobile station's CNID. Therefore, AS2 treats the call as a new PPP login, and follows the lengthy PPP connection process. Thus, following a temporary disconnection, SCM requires that the subsequent call be placed in the same access server as the first call. To be able to use SCM in such cases, a call would have to be directed towards the old access server, AS1.

Applicant's admitted prior art does not disclose setting up a PPP tunnel between the first and second access servers and tunneling packets over the connection.

Hsu teaches a Point-to-Point Protocol (PPP) connection may be established and maintained for a given mobile user even when that user is not receiving data service. While no data is communicated, the mobile user may be in a dormant(semi connected) mode. In one system, a mobile in dormant mode sends an Origination message, as defined for cdma2000, every time it roams into a different packet zone. The Origination messages are primarily used to update the various connections between the Packet Control Function (PCF) node and

the Packet Data Service Node (PDSN). (Para 20) A mobile node may change location without changing IP address; and may continue to communicate with other Internet nodes at any location using that IP address, when link-layer connectivity to the point of attachment is available. Each mobile node 210 has an associated home agent 202. The home agent 202 is a router on the mobile node's home network, which tunnels datagrams for delivery to the mobile node 210 when the mobile node 210 is away from home, and maintains current location information for the mobile node 210. A foreign agent 204 is a router on a mobile node's visited network, which provides routing services to the mobile node 210 while registered. The foreign agent 204 detunnels and delivers datagrams to the mobile node 210 that were tunneled by the mobile node's home agent 202. For datagrams sent by a mobile node 210, the foreign agent 204 may serve as a default router for registered mobile nodes. A mobile node 210 is given a long-term IP address on a home network. This home address is administered in the same way as a "permanent" IP address is provided to a stationary host. When away from the home network, a "care-of address" is associated with the mobile node 210 and reflects the mobile node's current point of attachment. The mobile node 210 uses the home address as the source address of all IP datagrams that it sends. While away from home, the mobile node 210 registers the care-of address with the home agent 202. Depending on method of attachment, the mobile node 210 will register either directly with its home agent 202, or through a foreign agent 204, which forwards the registration to the home agent 202. (Para 23-25) A PPP connection is established between the MN 308 and the PSDN

302. If the MN changes PDSN, a new PPP connection is established between the MN and the new PDSN. If it recognizes the ID it will reconnect through the same home agent if it hasn't moved and will connect through the foreign agent if it has roamed to a new zone. In either case, if the ID is not recognized, it is obvious the connection is new and a new PPP connection is established.

In regard to Claims 18 and 20, a mobile node 210 is given a long-term IP address on a home network. This home address is administered in the same way as a "permanent" IP address is provided to a stationary host. When away from the home network, a "care-of address" is associated with the mobile node 210 and reflects the mobile node's current point of attachment. The mobile node 210 uses the home address as the source address of all IP datagrams that it sends. While away from home, the mobile node 210 registers the care-of address with the home agent 202. Depending on method of attachment, the mobile node 210 will register either directly with its home agent 202, or through a foreign agent 204, which forwards the registration to the home agent 202. (Para 25)

4. Claims 2, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Hsu et al. (U.S. Pub. No. 2005/0094601) in view of Courvoiser (U.S. Pat. No. 5,943,412)

Regarding Claims 2,9 and 14, the combination does not disclose using UUS before starting the PPP setup.

Courvoiser teaches using UUS to convey the destination numbers from the first user to the second.

It would have been obvious to one of ordinary skill in the art to modify the combination to include the teachings of Courvoiser in order to speed up the connection between the first access server and the current access server the mobile is currently connected.

5. Claims 3,4,10,11,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Hsu et al. (U.S. Pub. No. 2005/0094601) in view of Courvoiser (U.S. Pat. No. 5,943,412) in view of Chuah et al. (Bell technical journal, Vol 4, no 3, 1999 51-72)

Regarding Claims 3,4,10,11,15 and 16, the combination does not disclose using a password that identifies the mobile subscriber.

Chuah teaches authentication as provided by PPP challenge handshake authentication protocol (CHAP) password authentication protocol (PAP).

It would have been obvious to one of ordinary skill in the art to modify the combination to include the teachings of Chuah in order to provide a more secure connection between the access servers. (pg 53, para 2)

In regard to Claim 4, Chuah teaches a mobile node may change location without changing IP address and may continue to communicate with other internet nodes at any location using that IP address.

6. Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Hsu et al. (U.S. Pub. No. 2005/0094601) in view of Chuah et al. (Bell technical journal, Vol 4, no 3, 1999 51-72)

Regarding Claims 7 and 12, the combination does not disclose using a password that identifies the mobile subscriber.

Chuah teaches authentication as provided by PPP challenge handshake authentication protocol (CHAP) password authentication protocol (PAP).

It would have been obvious to one of ordinary skill in the art to modify the combination to include the teachings of Chuah in order to provide a more secure connection between the access servers. (pg 53, para 2)

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mikael Latvala, Ericsson, "Semi connected Mode for PPP links draft ieft-ppext-scm-09.txt, IETF Internet Draft, Point-to-Point Protocol Extension Group, November 1998, Pages 1-20

U.S.Pat. No. 6,560,239 to Frid et al.

U.S. Pat. No. 6,757,266 to Hundscheidt

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Elcenko whose telephone number is (571) 272-8066. The examiner can normally be reached on M-F 7:30 AM through 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ee

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